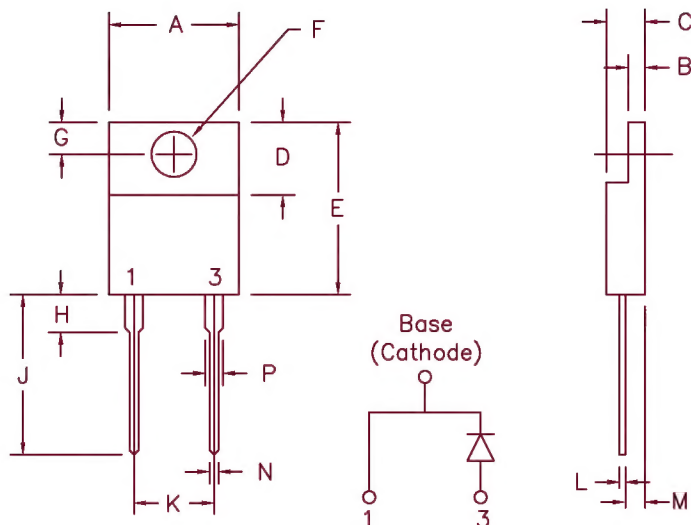


# 10 Amp Schottky Barrier Rectifiers MS1003 — MS1004



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.91	10.54	
B	.045	.055	1.14	1.40	
C	.180	.190	4.57	4.83	
D	.245	.260	6.22	6.60	
E	.550	.650	13.97	16.51	
F	.139	.155	3.53	3.94	Dia.
G	.100	.120	2.54	3.05	
H	---	.250	---	6.35	
J	.500	.580	12.70	14.73	
K	.190	.210	4.83	5.33	
L	.014	.025	0.35	0.63	
M	.080	.115	2.03	2.92	
N	.028	.038	0.71	0.96	
P	.045	.055	1.14	1.40	

Similar to TO-220AC

Microsemi Catalog  
Number

MS1003  
MS1004

Repetitive Peak  
Reverse Voltage

30V  
40V

Transient Peak  
Reverse Voltage

30V  
40V

- Schottky barrier rectifier
- Guard ring protection
- Low power loss, high efficiency
- $V_{RRM}$  30 to 40 Volts
- Reverse energy tested

## Electrical Characteristics

Average Forward Current  
Maximum Surge Current  
Max. Peak Forward Voltage  
Max. Peak Forward Voltage  
Max. Peak Reverse Current  
Max. Peak Reverse Current  
Typical Junction Capacitance

$I_F(AV)$  10 Amps  
 $I_{FSM}$  225 Amps  
 $V_{FM}$  .48 Volts  
 $V_{FM}$  .65 Volts  
 $I_{RM}$  10 mA  
 $I_{RM}$  250  $\mu A$   
 $C_J$  660 pF

$T_C = 158^\circ C$ , Square wave,  $R_{\theta JC} = 2.5^\circ C/W$   
8.3ms, half sine,  $T_J = 175^\circ C$   
 $I_{FM} = 10A$ ,  $T_J = 175^\circ C$  \*  
 $I_{FM} = 10A$ ,  $T_J = 25^\circ C$  \*  
 $V_{RRM}$ ,  $T_J = 125^\circ C$  \*  
 $V_{RRM}$ ,  $T_J = 25^\circ C$   
 $V_R = 5.0V$ ,  $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ . Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range  
Operating junction temp range  
Max thermal resistance  
Mounting torque  
Weight

$T_{STG}$   
 $T_J$   
 $R_{\theta JC}$

$-55^\circ C$  to  $+175^\circ C$   
 $-55^\circ C$  to  $+175^\circ C$   
 $2.5^\circ C/W$  Junction to case  
8-12 inch pounds 6-32 screw  
.08 ounces (2.3 grams) typical

# MS1003 — MS1004

Figure 1  
Typical Forward Characteristics

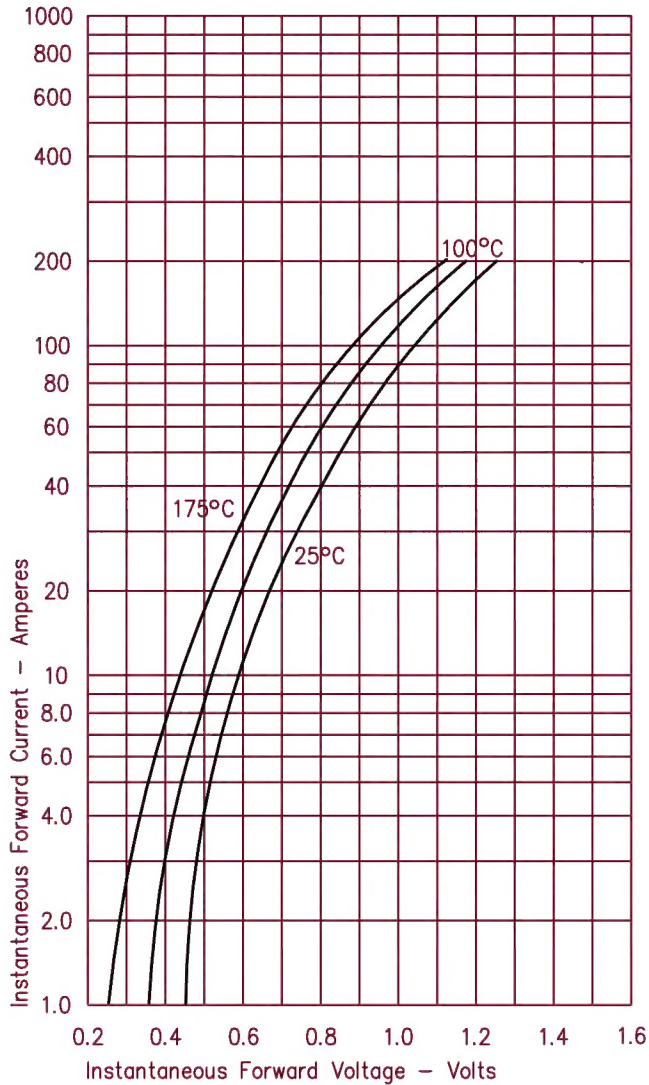


Figure 3  
Typical Junction Capacitance

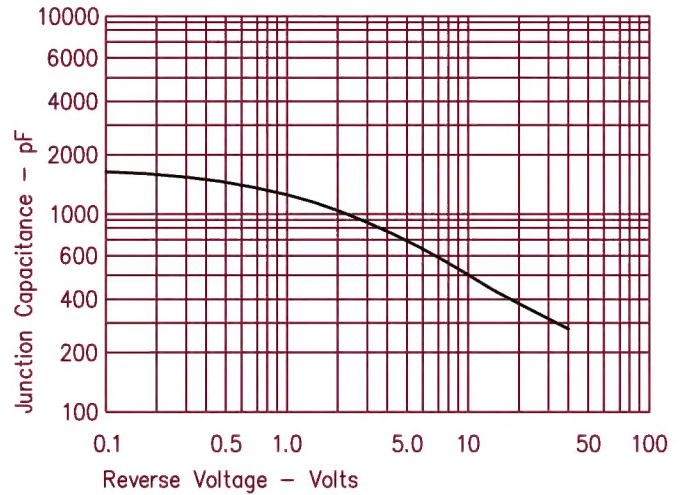


Figure 4  
Forward Current Derating

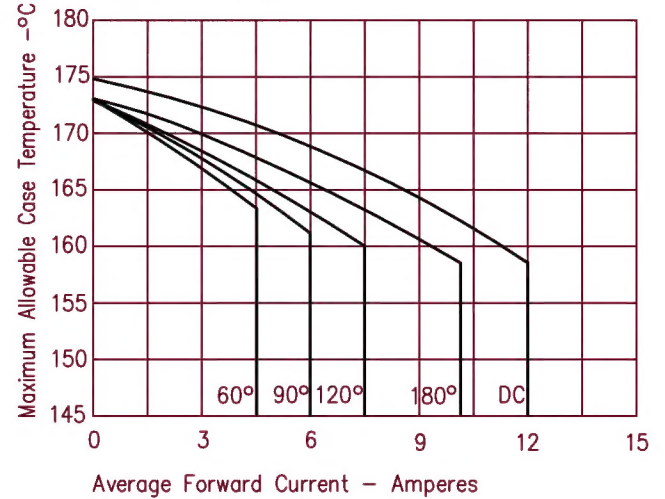


Figure 2  
Typical Reverse Characteristics

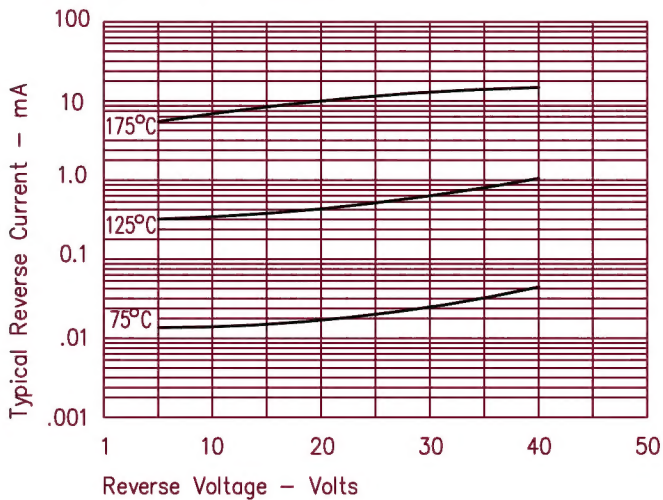


Figure 5  
Maximum Forward Power Dissipation

